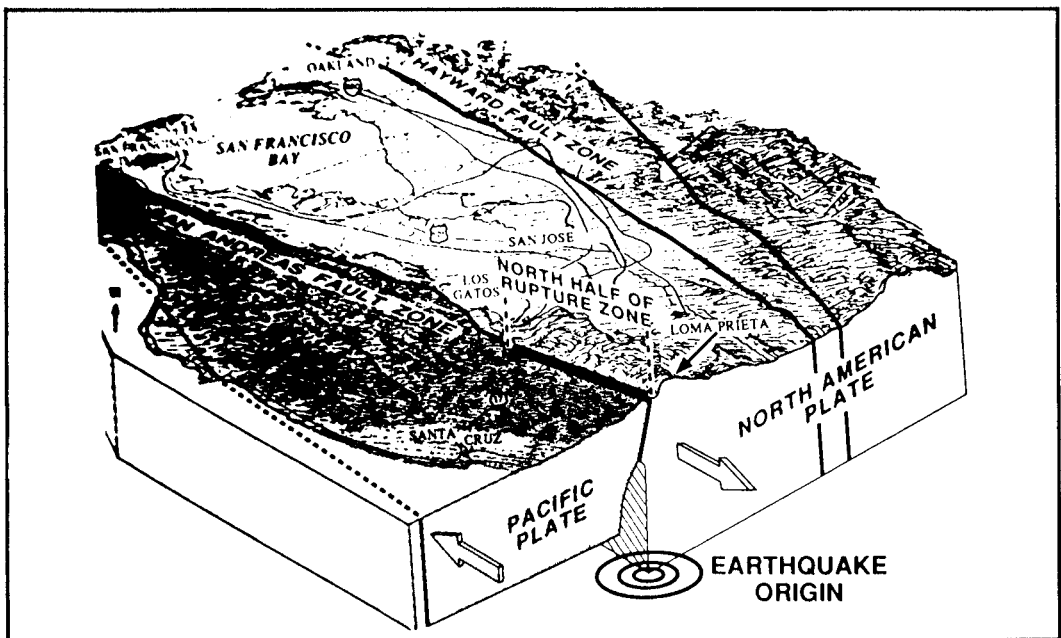


Initial Response

At 5:04 P.M. Pacific Daylight Time (PDT) on Tuesday, 17 October 1989, while many San Franciscans gathered at Candlestick Park to watch the third game of the World Series, the San Francisco Bay area was shaken by an earthquake that registered 7.1 on the Richter scale. Its epicenter was roughly 10 miles east-northeast of Santa Cruz and 60 miles southeast of San Francisco, near the 3,800-foot-high Loma Prieta Mountain. (Loma Prieta is a Spanish name for Dark Hill.¹) The earthquake was the most damaging in the United States in the past 80 years. It shot tremors as far south as Los Angeles and as far north as the California/Oregon state line. Although the earthquake lasted only 15 seconds, it killed 62 people, injured 2,435 others, and left thousands homeless. The estimated material loss reached \$7 billion. Over 14,000 residents in seven counties were forced into shelters for the homeless.²

Of the 62 deaths, 42 resulted from the collapse of the two-tiered Cypress Street structure of I-880. Six deaths



The Loma Prieta earthquake began 11.5 miles underground 17 October 1989.

occurred in San Francisco when an unreinforced masonry brick wall fell on the occupants of adjacent cars. Four deaths in the Marina district were caused by building collapse and fire, and four occurred in Santa Cruz when several buildings in the Pacific Garden Mall collapsed. Six more deaths were related to the earthquake. Most of the structural damage was to unreinforced masonry commercial and residential buildings and to older wood frame homes and apartments. Two-tiered freeways were particularly vulnerable; sections of I-480 (the Embarcadero Freeway) and I-880 (Cypress Street) all sustained major damage. The most serious destruction in San Francisco occurred in the fashionable Marina district where homes were damaged by failed foundations or ensuing fire. Whole blocks would have to be torn down and rebuilt.³



The most heavily damaged section of San Francisco was the Marina district where four people died.

Hundreds of people in San Francisco slept outside that first night because they were either homeless or feared their homes would collapse. By first light on 18 October, weary work crews struggled to restore electricity, telephone service, and gas lines. Subway and trolley service resumed by mid-day. Nearby communities sent water and fuel to keep emergency generators going.



A destroyed building crushes a car in San Francisco's Marina district.

The Federal Emergency Management Agency (FEMA), created in 1979 to consolidate the various federal emergency programs, is the lead federal agency in responding to disasters. Within an hour of the earthquake, Grant C. Peterson, FEMA's associate director for state and local programs who had been serving as acting director since June, had assembled a crisis management staff of 40 to 50 people and alerted the 26 member agencies of the Plan for Federal Response to a Catastrophic Earthquake.⁴

Under the 1988 Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707), as amended, the federal government assists state and local governments in preparedness, response, and recovery efforts. After the President declares a disaster, FEMA supplements the efforts and resources of state and local governments and voluntary relief agencies. Emergency management has four phases: preparedness, response, recovery, and mitigation.

- In the preparedness phase, state and local governments develop emergency plans and conduct training and exercises.
- In the response phase, local, state, federal, and voluntary relief agencies provide food, shelter, and emergency

power. FEMA does not maintain a stockpile of material resources but can direct other federal agencies to provide staff, equipment, supplies, and other resources.

- During the recovery phase, FEMA provides grants and loans to repair homes and public facilities.
- Hazard mitigation involves finding methods to reduce risks to life and property in the future.⁵

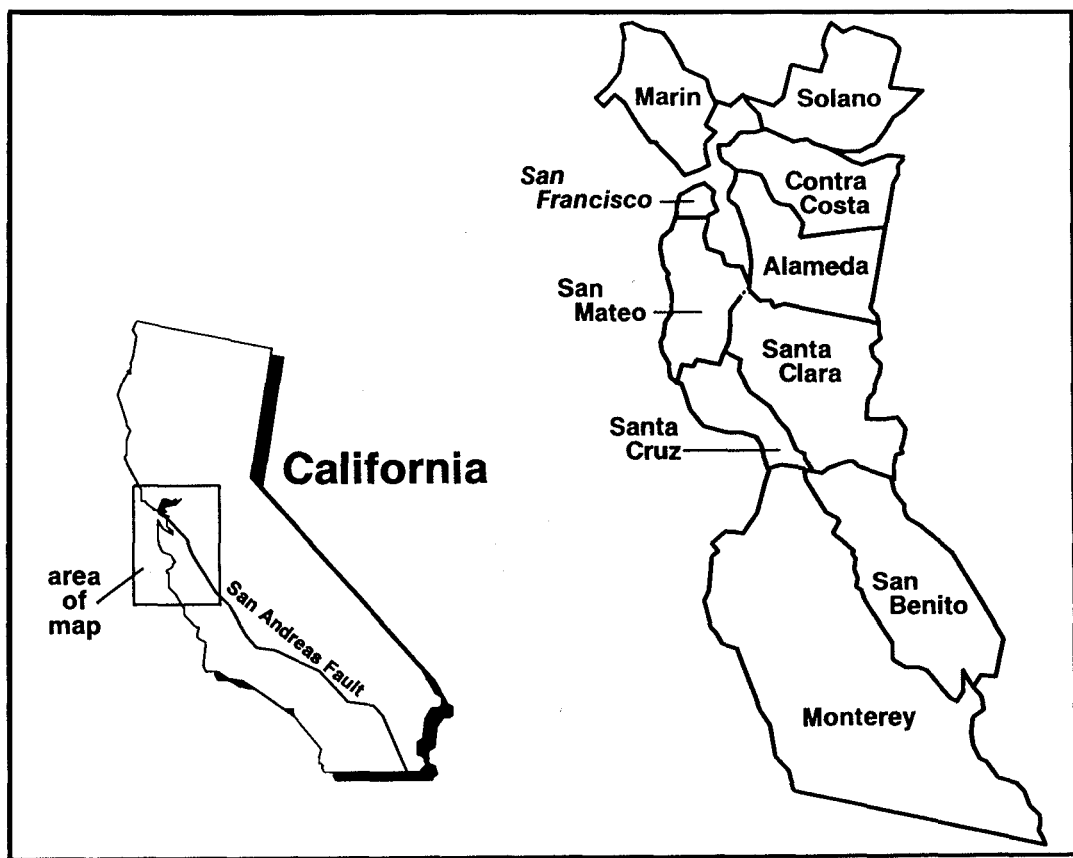
Within hours of the earthquake, FEMA opened an emergency information and coordination center in Washington, DC. Late Tuesday night, FEMA officials convened a meeting of the Catastrophic Disaster Response Group at the center. Representatives from the departments of Agriculture, Commerce, Energy, Health and Human Services, Justice, Transportation, and Veterans Affairs; Environmental Protection Agency; General Services Administration; Federal Aviation Administration; National Communications Systems; and the American Red Cross met to discuss the situation and to identify requirements for federal assistance to supplement state and local efforts. John P. Elmore, chief of the Operations, Construction, and Readiness Division, Headquarters, U.S. Army Corps of Engineers (HQUSACE), represented the Corps.

A representative from the governor of California's office also attended the meeting in Washington. The Catastrophic Disaster Response Group placed a conference call to state emergency officials in Sacramento, who indicated that the state was still assessing damage and had thus far been able to meet the requests for assistance from local governments. When queried by the Catastrophic Disaster Response Group, state officials recommended against activating the federal earthquake plan. These officials believed the state could handle the situation and thought that federal agencies would not need the authority provided in the plan.⁶

Once the Plan for Federal Response to a Catastrophic Earthquake is activated, federal agencies have automatic authority to obligate funds from the Disaster Relief Fund in coordination with state counterpart agencies. Although the plan was not activated in its entirety and federal agencies were not given this authority to obligate funds, federal officials decided to organize federal agencies along the lines of

the 11 emergency support functions (ESFs) described in the plan. Under the plan, the Corps of Engineers is responsible for ESF #3, construction management (now public works and engineering).⁷

In those first frantic hours, as the Catastrophic Disaster Response Group assembled, the White House quickly mobilized government resources. Stung by criticism of its Hurricane Hugo relief efforts, the White House was anxious to demonstrate its responsiveness and compassion. Following Hurricane Hugo, critics had charged FEMA with failing to put enough resources in place and taking weeks to set up disaster application centers in some counties and even longer to distribute emergency relief checks. President Bush, who had staunchly defended FEMA in the aftermath of Hurricane Hugo, visited FEMA headquarters the morning after the earthquake and directed Chief of Staff John Sununu to oversee the earthquake relief effort. He also dispatched Vice President Dan Quayle and Transportation Secretary



The Loma Prieta earthquake created a seven-county major disaster area in California. Three northern counties were added later.

Samuel K. Skinner to the bay area and visited the area himself two days after the earthquake.⁸

Early on 18 October, at the request of Acting Governor Leo T. McCarthy, Bush declared a major disaster in California under the Stafford Act, making seven counties in the bay area eligible for federal disaster aid money. He authorized FEMA to provide individual assistance and public assistance in Alameda, Monterey, San Benito, San Mateo, Santa Clara, and Santa Cruz counties, and in San Francisco. By law, federal funds were to supplement state and local funds, not replace them. Under the Stafford Act, public assistance was limited to 75 percent of the total eligible costs. Tommie C. Hamner, director of FEMA Region IX headquarters in San Francisco, became the designated federal coordinating officer. Subsequently, federal authorities declared the counties of Contra Costa, Marin, and Solano and the cities of Isleton and Tracy part of the disaster area.⁹